REMARKS

Favorable reconsideration is respectfully requested in view of the foregoing amendments and the following remarks.

I. EXAMINER INTERVIEW, CLAIM STATUS & AMENDMENTS

Applicant thanks the Examiner and her supervisor for the recent telephone interview to discuss this case. The claims have been amended along the lines discussed in the interview.

Claims 1-10, 12, 14, 15 and 17-30 were pending in this application when last examined.

Claims 29 and 30 were examined on the merits and stand rejected.

Claims 1-10, 12, 14, 15 and 17-28 were withdrawn as non-elected subject matter.

Claim 29 is amended to recite "condition wherein hyperinsulinaemia and insulin resistance are present." Support can be found in the disclosure, for instance, at page 30, lines 15-17 and the Abstract.

Claim 29 is also been amended to include a closing parenthesis at line 5 after "(GPI". cachexia." Support can be found in the claim as filed.

Claim 30 is amended to recite "group consisting of IDDM and NIDDM." Support can be found in the claim as filed.

No new matter has been added

Claims 1-10, 12, 14, 15 and 17-30 are pending upon entry of this amendment

II. INDEFINITENESS REJECTIONS

Claims 29-30 were rejected under 35 U.S.C. § 112, second paragraph, as indefinite for the reasons set forth in item 6, on pages 2-4 and item 11 on page 8.

This rejection is respectfully traversed as applied to the amended claims.

Claim 29 is amended to remove reference to "hormonal dysregulation" to address the concern in part (c) of the rejection. Further, it is noted that amended claim 30 specifies "IDDM" and "NIDDM."

Claim 29 is amended to include a closing parenthesis after "(GPI" at line 5 to address the rejection in item 11.

Therefore, the rejection of claims 29-30 under 35 U.S.C. § 112, second paragraph, is untenable and should be withdrawn.

III. WRITTEN DESCRIPTION REJECTION

In item 8 on pages 4 and 5 of the Action, claims 29-30 were again rejected under 35 U.S.C. § 112, first paragraph, on the basis that the Specification lacks written description support for (1) a method of treating a condition where "hormonal dysregulation, hyperinsulinaemia, and/or insulin resistance are present" and (2) a method of treating "pre-IDDM" or "pre-NIDDM". This is a new matter rejection.

Applicant respectfully submits that the present amendment overcomes this rejection.

For the sole purpose of expediting prosecution and not to acquiesce to the rejection, claim 29 is amended to specify that the condition involves the presence of "hyperinsulinaemia" and insulin resistance." Claim 30 was also amended to specify that condition is selected from the group consisting of "IDDM" and "NIDDM."

For these reasons, the new matter written description rejection of claims 29-30 under 35 U.S.C. § 112, first paragraph, is untenable and should be withdrawn.

IV. ENABLEMENT REJECTION

In item 9 on pages 5-8 of the Action, claims 29-30 were rejected under 35 U.S.C. § 112, first paragraph, on the basis that the Specification lacks enablement for the claimed method.

This rejection is respectfully traversed as applied to the amended claims.

In the interview, the Examiners favored Applicant's proposal to limit the claims to treating "hyperinsulinaemia and insulin resistance". The Examiners agreed that this amendment addresses and overcomes the issue of breadth regarding the disease conditions set forth in the 112, first paragraph, enablement rejection.

For the sole purpose of expediting prosecution and not to acquiesce the rejection, claim 29 has been amended to specify that the condition involves "hyperinsulinaemia and insulin resistance" as suggested in the interview.

During the interview, the Examiners also expressed concern as to whether such amendment would overcome the rejection as to the lack of enablement for the claimed treatment for administering the entire anti-T cell receptor (TCR) Vβ antibody. The Examiners again expressed concern that the claimed treatment involves administering an entire pathogenic antibody and the specification lacks data showing that such would be effective to treat any disease condition.

As to the CDR peptide data in WO2007/017686, the Examiners again argued that, while a short CDR peptide of a pathogenic antibody might function in a feedback mechanism to inhibit pathogenic antibody formation, there is no evidence suggesting that administering the entire antibody would function in a similar way. They again argued that the data for the short CDR peptide is not commensurate in scope with the claim treatment calling for administering whole antibodies. It also appears that Office is concerned that use of anti-anti-TCR Vß antibody in a method of treatment might be pathogenic.

The Examiners noted that they would seriously consider withdrawing the rejection, if Applicant submitted an expert opinion and/or experimental data in the form of a Rule 132 declaration demonstrating the effectiveness of the claimed treatment using whole antibodies.

In reply, enclosed herewith is an expert opinion from the inventor, in the form of a Rule 132 Declaration, to support Applicant's position. The expert opinion explains why antibodies

and fragments with the same cross-reactivity as the human autoantibodies identified by the inventor are expected to be useful in a therapy, such as that of the present invention.

The expert opinion also explains why the skilled person would expect a full-length antibody or large antibody fragment to be at least as good as a CDR peptide at inducing neutralizing antibodies.

In this regard, please see again the arguments in the March 15, 2007 response at pages 15-15 with regard to the CDR peptide data in Applicant's later related application, GB A 2429013 (published 14.02.2007) and/or WO 2007/017686 (published 15.02.2007). In the Office Action, it was indicated that these references were considered, but since they were published in 2007, after Applicant's filing date, they cannot support the enablement of the present invention. In reply, Applicant respectfully submits that they are not needed to enable the present invention. It is true that post-filing date references cannot be used to supplement and enable a deficient disclosure. However, Applicants respectfully submit that this is not the case here. The cited references are not required to supplement a deficiency in the disclosure. They are not required to enable the disclosure. Instead, they simply confirm the therapeutic effectiveness of the method of treatment as disclosed in the application. It is permissible under US practice to submit post-filing date references as evidence confirming the effectiveness of the invention as disclosed in the application. It is respectfully submitted that the cited GB A 2429013 (published 14.02.2007) and/or WO 2007/017686 (published 15.02.2007) do just this.

Furthermore, kindly note that the attached Rule 132 Declaration further addresses the Examiner's concerns for the potential problems associated with administering an antibody or fragment that mimics a pathogenic antibody. Please see also see the discussion in the last response. As discussed therein, Applicant again notes that it is common for potentially pathogenic agents to be used in the treatment and prophylaxis of disease. For example, as explained in the instant Specification at page 25, lines 10-30, the methods of treatment of the present invention are mechanistically analogous to prior methods, which involve "administration

of anti-D immunoglobulin (anti-D Ig) to Rh-negative mothers carrying Rh-positive fetuses". Clearly, when "immunizing individuals with the pathogenic antibodies" (as suggested at page 25, lines 28-30 of the Specification) an appropriate dose of the pathogenic antibody must be selected. Please see also page 36, lines 20-30 of the Specification, which provides a useful explanation of how the invention can be used to treat disease.

In view of the above, it is respectfully submitted that one skilled in the art could practice the present invention without undue experimentation based on the guidance in the Specification coupled with the knowledge in the art. In other words, the skilled artisan, upon reading the disclosure, could use the present invention without undue experimentation in method to treat a condition wherein hyperinsulinaemia and insulin resistance are present, by administering to a patient in need thereof an antibody or fragment thereof which specifically binds both an anti-T cell receptor (TCR) Vβ antibody and a glycosyl phosphatidyl inositol (GPI) linkage epitope in an effective amount to treat said condition, optionally in conjunction with a pharmaceutically-acceptable carrier.

Therefore, the enablement rejection of claims 29-30 under 35 U.S.C. § 112, first paragraph, is untenable and should be withdrawn.

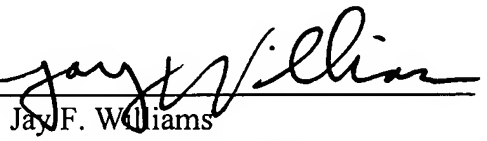
V. CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is in condition for allowance and early notice to that effect is hereby requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact the undersigned attorney at the telephone number below.

Respectfully submitted,

Arpi MATOSSIAN-ROGERS

By: 

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December 20, 2007

ATTACHMENT

1. Rule 132 Declaration by Dr. Arpi Matossian-Rogers.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	:	10/674,433
First Named Inventor	:	Arpi Matossian-Rogers
Filed	:	October 1, 2003
Art Unit	:	1644
Examiner	:	A. Juedes
Attorney Docket No.	:	2003_1279

DECLARATION UNDER 37 CFR § 1.132

Sir:

I, Dr. Arpi Matossian-Rogers, hereby declare as follows:

1. I am the sole inventor for this patent application.

2. I am currently Chairman and Chief Executive Officer of a biotechnology company developing a number of innovative treatments for autoimmune diseases. I have held this position since 1999. Prior to taking on this role, I pursued an extensive academic career at the University of London. The significant contribution of my work to the advancement of science embodied in my numerous scientific publications was recognised by the award of Membership of the Royal College of Pathologists followed by Fellowship of the same College.

3. My expertise encompass the fields of bacteriology, virology, parasitology and immunology, especially in the areas of transplantation, cancer and autoimmune diseases.

4. I understand that the Examiner is concerned that my application does not contain any experimental data proving that the antibodies and fragments I describe are therapeutically effective.

5. I do not agree with the Examiner's suggestion that experimental data are essential to show that antibodies or fragments having the same cross-reactivity as the naturally-occurring pathogenic autoantibodies described in my application can be used in therapy. My application contains a very detailed technical explanation of how my invention works. I believe the technical explanation in my application would be more than enough to satisfy those working in the field that antibodies or fragments having the same cross-reactivity as the naturally-occurring pathogenic autoantibodies are useful in the treatment of diseases where hyperinsulinaemia and insulin resistance are present, including IDDM and NIDDM. In any case, I believe the experimental data I have can be

used to show that antibodies or fragments having the same cross-reactivity as the naturally-occurring autoantibodies can be used in therapy, as explained below.

6. I understand that the Examiner is of the opinion that there is no evidence that administering an entire antibody, or a large fragment of an antibody, would have the same therapeutic effect as the administration of a short CDR peptide as disclosed in my later patent application (WO 2007/017686).

7. I do not agree with the Examiner's comments. I believe that those working in the field would expect that an entire antibody molecule, or a large antibody fragment, would be at least as good as a short CDR peptide at generating neutralising antibodies. Antibodies, whether polyclonal or monoclonal, bind to target molecules by virtue of their hypervariable regions. The binding capacity may reside in one or more of the hypervariable regions, which are commonly called complementarity determining regions (CDRs), or may utilise components from a number or all of the CDRs. The binding capacity of a CDR may reside in its linear structure or may require a three dimensional conformation for recognition. Even though CDRs may retain some recognition capacity, the entire antibody molecule provides the ideal tertiary conformational structure for target recognition. Even if a CDR has recognition capacity it is a poor substitute for the whole antibody in its native conformational state. For these reasons, an entire antibody molecule, or a large antibody fragment, would be expected to be at least as good as a short CDR peptide at generating neutralising antibodies.

8. My later patent application (WO 2007/017686) shows that short CDR peptides derived from monoclonal antibodies with the same cross-reactivity as the naturally-occurring pathogenic autoantibodies described in this application are therapeutically effective in human patients. Those working in the field would therefore expect that antibodies and large antibody fragments with the same cross-reactive binding specificity as the pathogenic autoantibodies described in this application will also be therapeutically effective.

9. I also understand that the Examiner is concerned that administration of an antibody or fragment which mimics a naturally-occurring pathogenic autoantibody might be detrimental to the patient.

10. I do not agree with this, because the small doses administered would not contribute significantly to the already existing total human autoantibody pool, so will not worsen the patient's condition. In addition, as explained in my application, autoantibodies have already been used in the treatment of rheumatoid arthritis patients and also Rh-negative mothers carrying Rh-positive foetuses (this is at pages 25 and 36 of my application). Those working in the same technical field would therefore be

familiar with the concept of using potentially pathogenic antibodies and fragments to achieve a positive therapeutic outcome.

11. I believe that those familiar with autoimmune diseases would immediately understand how to use cross-reactive antibodies and fragments in therapy after reading my application. For example, they would understand that an antibody or fragment which mimics the naturally-occurring pathogenic autoantibody described in my application could be used to generate antibodies against the pathogenic autoantibody. In that situation, the naturally-occurring autoantibody does not generate self-neutralising antibodies, even though the therapeutic antibody or fragment, which might for example be a murine monoclonal antibody or fragment, has the same cross-reactive binding specificity. The fact that a therapeutic antibody or fragment mimics a naturally-occurring pathogenic autoantibody is not a contraindication to its use, because relatively small doses would be used to generate neutralising antibodies. Again, the small doses used would not contribute significantly to the already existing total human pathogenic autoantibody pool.

12. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true and further that the statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the Application for any patent issuing thereon.

Dated: December 18th 2007 A. Matossian-Rogers

Dr. Arpi Matossian-Rogers